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A PHASE OF THE

ALCOHOL QUESTION

FOR

YOUNG PEOPLE WHO THINK.

BY

J. R. SMITH, M. D.

WRITTEN BY REQUEST OF MRS. M. J. HUBBLE, DISTRICT
SUPERINTENDENT OF SUNDAY SCHOOL DEPARTMENT
OF W. C. T. U. FOR SOUTHWEST MISSOURI.

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PREFACE.

Prefatory to the following attempt to set alcohol in its proper light before the young people, I wish to quote a few words from Wm. H. Cook A M., M. D., whom I consider the peer of any medical philosopher of this age. He says; "When we survey the terrible consequences of the use of alcoholics one can but exclaim 'woe to him that putteth the cup to his neighbor's lips!' The medical profession is far from being blameless in this particular. By their prescriptions, many a man—aye and many a noble woman—has had a love of strong drink developed, and many a subjected thirst has been aroused to fury. Under the false theory that poisons can become good remedies,—that the most frightful evils can be changed into wholesome blessings,—the medical profession has made itself the ally of the saloon in fostering the drink appetite, and in making the use of intoxicants appear both useful and respectable. Under the guidance of a false theory, the medical profession furnishes the drinker and the saloon-keeper a final argument for the use of alcohol. Thus the medical profession today keeps alive the cause of the drunkard

and the saloonist, and saps the foundation of temperance, and prevents the success of prohibitory legislation." I will only add that the adage, "Ubi virus, ibi virtus;" "Where poison is, there is virtue," unquestionably must have received its initial energy and germ thought in the nebula of hell æons before the snake metaphorically used his hypodermics on Mother Eve in the garden of Eden. I so judge because of the overshadowing preponderance of the dogma in so-called medical science while the world is yet so young. J. R. S.

Springfield, Mo., March, 1895.

A PHASE OF THE ALCOHOL QUESTION.

LESSON I.

Q. What is the physiological unit in the composition of the living organized body?

A. The cell.

Q. Describe a cell?

A. A cell is made up of living matter, (Bioplasm: Bios, life, and plasma, a mold,) and dead matter: that is, formed material.

Q. Explain the difference between the living and dead matter, which you say makes up the cell?

A. Living matter is structureless, semifluid, transparent and colorless. It is the only matter that can grow, divide itself, move and multiply. It is the only matter that can take up food (pabulum) and convert it into its own substance. Dead matter or formed material, is that substance which was once, but which has ceased to be, living matter, by having passed from the condition of food into and through the living state, into a dead state, and prior to its disintegration, by a process known as metabolism.

Q. Tell us something more of this bioplasm?

A. It is the same in vegetables as in animals—the same physically and chemically. A bioplast is about 1-50,000 to 1-3,000 of an inch in diameter. It is the only substance known that inherently has the power to move itself. Every thing on the earth that is alive, owes this condition of life to the presence of these bioplasts in its tissues, and every part of an organism as bone, skin, cartilage, muscles, nerves, &c., that has vitality, is alive only because of the presence of this living bioplasm. The bioplast gets its nourishment from the food (pabulum,) in the circulating fluid (blood, juices, sap,) by a process known as endosmosis; a Greek word meaning “I seek inward.” This food is drawn through the cell wall and assimilated by the bioplast and becomes a part of it.

Q. What becomes of the substance of the bioplast after it has served its purpose as living matter?

A. It is further hardened and takes its place in the cell wall, thereby keeping a zone of dead matter, (formed material,) around the bioplast.

Q. What motive power, (or mode of motion, if you like) is set free by this process you have just described?

A. Heat. By the condensation of the fluid food as it becomes the semifluid bioplasm and the semifluid bioplasm as it becomes solid, formed material, calorific energy is set free because of the reduced

capacity of the substance to retain it. This is the source of animal heat.

Q. What further process takes place in the cell wall?

A. The cell wall is disintegrated by the action of this heat, and moisture, and is eliminated from the system by means of the sweat glands, kidneys, &c.

Q. What term would you employ to express all these changes?

A. Metabolism.

Q. Are these processes all necessary to the continued existence of an organized being?

A. They are absolutely indispensable, even to the complete elimination of the product of the disintegrated formed material.

Q. What power, energy, potentiality, force or whatever it may be called, carries on and supervises these processes?

A. The vital force.

Q. It is said by some, that chemical energy has this office?

A. The living body is a physiological, not a chemical being. Chemical force does not act on bioplasm until after it is dead. Vital force builds and sustains organized beings in opposition to chemical force. Chemical force always tends to reduce complex organisms to simple chemical

elements, or specific chemical compounds, which are incapable of exhibiting any of the functions of living matter.

LESSON II.

Q. What is albumen?

A. Dr. Carpenter describes it as, "A thick viscous substance, which is a constituent part of both animal fluids and solids, and which exists nearly pure in the white of an egg."

Q. Of what is albumen composed?

A. Of about 54 per cent of carbon; 16 per cent of nitrogen; 2 per cent of sulphur, and a small proportion of phosphorus.

Q. Where is it to be found most plentifully?

A. Being soluble in water, in that condition is found in the egg, in the juice of flesh, the serum of the blood and the juice of vegetables.

Q. Are there other compounds in the living body that resemble albumen?

A. Yes. Fibrine and casine. Indeed albumen may be considered the raw material of fibrine, and fibrine is supposed to be animalized albumen.

Q. Then it seems that albumen plays a very important part in the animal economy?

A. Very true it does. It forms the starting point of all animal tissue; for, in an egg, during

incubation all parts of the chick are formed out of it.

Q. Tell us something of the behavior of albumen under some conditions and in contact with some substances?

A. Under heat at a temperature of about 150 degrees Fahrenheit, it coagulates and is no longer soluble in water. In alcohol its conduct is the same as under heat. In contact with corrosive sublimate (Hg Cl_2), sugar of lead ($\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2$), blue vitriol ($\text{Cu SO}_4 \times 5 \text{H}_2\text{O}$), nitrate of silver (Ag NO_3), albumen forms insoluble compounds and cannot then be used as a tissue builder.

Q. Do you mean to say that these ⁵degrees *drugs* would have these effects on albumen were they brought in contact with it in the system, in the blood or brain for instance?

A. Science so bears out the statement. Experiments so teach.

Q. But many intelligent physicians prescribe these drugs as remedies for disease?

A. Error's votaries have been legion in all ages; and only the Zetetic may hope to avoid the evils of a false philosophy.

Q. What other product of vitality is very much like albumen in its physical properties?

A. Bioplasm.

LESSON III.

Q. Will you explain the origin of the word, intoxicate?

A. The word is derived from a Greek word, toxicon, meaning a poison in which arrows were dipped. This word, toxicon, comes from another word in the same language, on the same root, toxikos, pertaining to a bow or arrow, and this last is from the root word toxon, bow, arrow.

Q. Must we then infer that when a person is intoxicated, such person is poisoned, and vice versa?

A. That would be a philological inference, demonstrable by facts.

Q. Will you be so kind as to give a definition of a poison?

A. A poison is anything whose natural tendency in action is to destroy either the integrity or function of living tissue; excepting thermal and electrical agents and mechanical means.

Q. What would be a safe yet simple test to determine the poisonous quality of a drug?

A. It would be to subject living tissue or bioplasm to the action of the drug and observe the effects of the same.

Q. How could you observe the effects of a poison on bioplasm?

A. This can be, and has been done by, means of the microscope.

Q. Give the behavior of bioplasm under such conditions?

A. When brought in contact with a functional poison or a chemical poison strong enough to kill it, but not strong enough to disintegrate it the bioplast immediately assumes a spherical form, and so remains until the chemical energy inherent in its elements destroys its integrity.

Q. Will the bioplast assume this form under the influence of other agents not poisonous?

A. Yes.

Q. Then what further proceedings are necessary to determine the poisonous or non-poisonous properties of this agent under test?

A. By still further subjecting the bioplast to the action of a pure stimulant, if it has not been killed by the drug under test, rapid ameboid movements will supervene. If a pure, innocuous relaxant is used instead of the stimulant, the motion will be a slow lazy like spreading of the bioplast. Both actions showing that life is not extinct or even lessened.

LESSON IV.

Q. What does the word alcohol mean?

A. It is an Arabic word; and primarily signified a very fine powder, used to color the eyebrows.

The fineness of this powder lead to the application of the word to any supposed highly rectified spirit. Though this use of the word was not known in Arabia for many long years.

Q. How is alcohol obtained?

A. It is obtained by distillation from water in which saccharin matter (sugar) has undergone the process known as vinous fermentation.

Q. Explain this process known as fermentation?

A. It is a decomposition of starch, sugar, &c., under the influence of water, air and warmth, and a recombining of their elements in another form.

Q. Tell us something more of it, as it relates to the formation of alcohol from corn?

A. The starch of the corn under the influence of warmth, air and water ferments, (sours). The carbon, Hydrogen and oxygen of which it is largely composed are separated and recombined forming grape sugar. This in turn decomposes, separates its elements, which again combine in a different form as alcohol, which is distilled at a rather low temperature.

Q. Knowing this, are we to conclude that there is no alcohol in corn or other grain?

A. Most assuredly. There is not in a ton of sound grain one single drop of alcohol. The grain must be first torn up chemically; then some of its elements recombine to form grape sugar; then this,

as before said is chemically torn up, and again some of the elements recombine to form alcohol.

Q. It seems then, that all the processes in the formation of alcohol are those of decay and death?

A. Such are the teachings of science.

Q. Can you name the elements that ultimately combine to form alcohol: also the quantity of each?

A. Yes. They are Carbon 52.67 per cent, Oxygen 34.43 per cent, Hydrogen 12.90 per cent. Its chemical formula is, C_2H_6O .—that is; two atoms of Carbon, six atoms of Hydrogen and one atom of Oxygen in each molecule of alcohol.

LESSON V.

Q. You said in a former lesson, when speaking of the effects of different drugs on bioplasm, that you used a pure stimulant. Was this stimulant alcohol?

A. By no means. Alcohol is not a stimulant. Besides, when the bioplast is immersed in even a very weak dilution of alcohol, it immediately assumes the spherical form and can never more be made to resume any action which would indicate life. It is dead!

Q. Are we to infer, then, that alcohol is a poison and not a medicine?

A. Such is not only an inference; it is a truth. No organism can live in alcohol.

Q. But is not a poison a medicine also, under certain conditions?

A. Never! That which always, and in its very nature tends to destroy life cannot be a medicine.

Q. How is it that many sick people recover health when alcohol is administered?

A. Simply from the fact that the life force existing in the bioplasm, is sufficiently powerful to resist its death tending action, as well as to restore a healthful condition of the organs diseased.

Q. In what manner does alcohol affect bioplasm?

A. Bioplasm greatly resembling albumen in its physical properties and chemical composition, behaves in the presence of alcohol in the manner the latter substance does. This may be occularly demonstrated by dropping some of the white of an egg, which is nearly pure albumen, into a glass of alcohol. The albumen is solidified.

Q. You say that nothing can live in alcohol. Will tissue decay in it?

A. No. Neither vegetable or animal tissue, will decay in alcohol.

Q. Then if one could control living tissue just far enough with alcohol to stop, in a measure, its waste by disease, would it not that far, and in that case, be a good medicine?

A. Certainly not. for the reason that this process of waste is absolutely necessary to the preservation of health, and its restoration when lost; and must not be interfered with. The only way to meet the demand caused by waste of tissue, is, to keep the bioplasm in a condition that will favor the assimilation of food, and deposit of formed material. This is metabolism; and alcohol prevents or lessens metabolic changes, according to amount taken in the system.

Q. But is not alcohol a food, and does it not combine with the oxygen in the inspired air in a process of combustion, the result of which is the production of animal heat?

A. Alcohol is not a food in that sense, or any other sense, from the fact that the greater portion passes out of the system by way of the lungs and the various excretory organs unchanged.

That portion of alcohol not thus eliminated, forms with the decomposed organic matter a new compound which is not readily disintegrated; and which cannot be assimilated by any known form of bioplasm. In this way food (pabulum) either in the stomach or circulation becomes incapable and unfitted for the supply of material for bioplasmic growth, and through this process the renewing of the waste of tissue. Moreover, animal heat is not produced by the combination, in combustion, of oxygen with carbon or any other combustible sub-

stance; but is set free during, and in consequence of, the metabolic changes already mentioned. That is, as the food, (fluid,) becomes bioplasm, (semifluid), and the bioplasm becomes solid, (formed material,) heat is eliminated and manifests itself. Then when the solid, (formed material,) having passed from under the control of the life force in the bioplasm is solely effected by heat and moisture it is by these disintegrated and rendered fluid again, in which condition it is eliminated. Having done its work in the vital economy it is of no further use. The partial exception to the above is found in the hair, nails, teeth, epithelium and epidermis, which, as formed material, are finally disposed of by abrasion, desquamation, excision, exfoliation, &c. Alcohol stops or retards all these processes, hence it lowers the temperature of the living body. It simply and effectively tends to shut down the bioplasm factory and discharges a portion or all of the life builders, and they starve and then "turn to dust" under the control of chemical energy.

LESSON VI.

Q. What is a medicine?

A. The word comes from the Latin, *mederi*, *medicus*; meaning, to heal. Hence a medicine is any substance which, when brought in contact with

living tissue, will directly influence that tissue in the direction of the action of the vital force, as against the action of chemical forces.

Q. This is rather confusing. Can you not make it more plain?

A. I will try. All vital action is carried on by alternate relaxations and contractions of tissue. A medicine, to be such, must aid one, or the other, or both of these actions and do so in strict accord with vital intention.

Q. That we may be the better able to comprehend this subject, perhaps it would be well to state the modes of departure from health of living tissue?

A. Living tissue can depart from its normal, healthful condition in but three ways: too great and persistent contraction; too great and persistent relaxation; loss of strength, power, vital force.

Q. May there not be such condition in which alcohol or other poisons, would aid in a return of tissue to its normal, when it had thus departed therefrom?

A. This could not be; for as was said by a writer in the Boston Medical Journal, "All poisons, whatever their differences in other respects, agree in this; they suddenly and rapidly extinguish a great proportion of the vitality of the system." And as Prof. John P. Harrison said of a poison most commonly employed. "It is a powerful depressor of the energies of life."

Q. What is the true test of a remedy?

A. The true test of a remedy, is its constant tendency in action to restore directly the healthy state: and alcohol and other poisons destroy life in the bioplast; hence cannot be remedies medicinally.

LESSON VII.

Q. Will you give some names as authority for the foregoing views on alcohol?

A. With pleasure. Prof. G. Bunge, Chair of Physiological Chemistry, in the University of Basle, Switzerland, says: "That all the working of alcohol in the system which usually are considered excitement or stimulation, are only the indications of paralysis. The benumbing of all sense of fatigue or weariness, belongs also among the tokens of paralysis, so commonly attribute to stimulation.

* * * * * The error that alcohol strengthens the weary is most fatal in the class to which the largest part of the population belongs." Concurring in the above I mention James Ross, M. D., F. R. C. P., England. The eminent Dr. Semnola of Naples, Dr. George R. Achor and Prof. Gardner of Scotland. Sir Lionel Beale one of the greatest scientists of the age says: "It (alcohol) does not act as food. It cuts short the rapidly growing bioplasm or causes it to live more slowly; and tends to cause a diseased texture.

* * * * * It is easy to prove that by

these measures many cells that were alive are killed, and those that escape death grow more slowly than before." Prof. N. S. Davis, M.D., of Chicago says: "I have demonstrated by the last forty years of actual experience that no form of alcoholic drink, either fermented or distilled, is necessary or desirable for internal use, either in health or any of the varied forms of disease: but that health can be better preserved, and disease more successfully treated without the use of such drinks. * *

* * * I have never yet seen a case in which the use of alcoholic drinks either increased the force of the heart's action or strengthened the patient."

Q. Have you any statistics whereby we may judge between the alcoholic and non-alcoholic treatment of disease?

A Such statistics are plentiful and easily obtained. Dr. Davis, above referred to, gives the statistics of many hospitals where alcohol is used in the treatment of typhoid fever and pneumonia, and then places besides these the results of non-alcohol treatment in his own words in Mercy Hospital, Chicago, showing a much lower death rate in the latter. Dr. Steadman, of Boston City hospital, compares 1042 cases of typhoid fever treated with alcoholics, with a mortality of 386, with 1042 cases of the same disease under the non-alcoholic treatment having a loss of 81.

Q. This is awful!

A. Yes. It may be said with truth, referring to the above that 305 of the fatal cases resulted so simply because they were killed with alcohol—literally poisoned—intoxicated to death!! Dr. Bull states that sixty-five out of every one hundred pneumonia patients in the New York hospitals die under the exhibition of alcohol while only five die in the London Temperance hospital under the non-alcoholic treatment.

Q. I suppose we have gone as far as we can, for want of time, in this investigation?

A. Very well! But before closing our labors I wish to quote a few words from Prof. Redding. He says: "Alcohol is a poison diminishing or suspending the vital activities of the body; arresting or retarding the nutritive changes and disintegrative processes, and thus lowering the temperature and reducing the secretions and excretions; in a word, deranging all the processes of animalization." And in conclusion we may state that any drug which, when taken into the system tends to destroy bioplasm or its function is detrimental to the health and morals of the person taking it. For we cannot have the best morals without good health.



REFLECTIONS.

“FEED MY SHEEP”—Jesus.

The physical body partakes largely, as to texture healthfulness, &c., of the nature of the food assimilated. By constantly feeding certain kinds of food the various tissues, as bone, muscle, nerve or cartilage may be increased almost at will.

This law obtains with equal force in man's spiritual organism. And when The Loving One gave the order above quoted, no one knew better than He the awful responsibility placed on that impulsive Apostle to whom it was given. He knew that good food for the soul—moral and intellectual food—in short truth, administered by a brave faithful hand, was absolutely necessary in order to the redemption of this sinning, groaning, weeping, crime cursed earth. He knew that if the soul could be constantly filled with the bread of life exemplified in His life and maxims, the oncoming ages would see, instead of fears and tears and crime scared visages, a race whose every heart, thought and impulse would be reeling with love and laughter, because of perfect health of soul and body. This beautiful dream of philosopher and philanthropist can only be made a living reality by feeding the physical and psychical human with food, whose assimilation, on the one hand, will make sound physical tissue, and on the other hand will construct sound mental and moral

tissue, if that term be allowed in this connection. And may we not pertinently ask the question; "May there not be a psychical unit of organic structure, as well as a physical, that must have the sincere milk of the word of truth, that its spiritual being 'may grow thereby?' " If so, and we feed that psychical bioplasmic unit with food or medicines not in accord with its nature may it not "grow more slowly" or shrivel and die?

By a violation of the laws of our being, either physical or psychical, an abnormal or diseased condition is produced, which may result in the death of body or soul. Unquestionably the Being who created us provided remedial means in the stored up energies of the lower organic structures whereby we may, in a measure, bring ourselves to the normal. The physician is supposed to attend these needs of our bodies, and the priest or moralist, those of our souls. In the physical world we have these energies conserved and prepared to the physician's hand in the Kingdom below the animal. But in this Kingdom, as in all others, the useful and the baneful are mixed. But the same Wisdom that made us, gave us intelligence that we might select the appropriate remedy and reject the inappropriate. And so our necessary and good food and medicines grow on the same soil with the deadly toadstool and poisonous belladonna. Instinct teaches the lower animals to select the appropriate and reject the injurious of

each. Intelligent, unprejudiced investigation must be man's guide or he must pay the penalty. Life cannot be conserved by that which in its nature tends to destroy it. Bad morals cannot be made good by filthy soul-food. All living things above the vegetable kingdom must be fed from organic matter. Aberations from health must be rectified by the exhibition of the energies of organized matter which are in accord with vitality. And so of the soul, organic energy as found in the various societies of the civilized world is a necessity as a moral food for the growth of the soul, or medicament for perverted taste and vitiated social conditions.

Let the work of the Woman's Christian Temperance Union, Young Men's Christian Association and Christian Endeavor go on. God is with them.

A THOUGHT ON HEREDITY.

The few words following are earnestly commended to heads of families who may read these pages.

"The evil that men," and women, "do lives after them." And we have the plaintive and wailing witnesses to this truth in the imbecile and nervously prostrated children that crowd all the walks of life, whenever parents have taken this accursed stuff, either as a beverage or as a medicine.

Again: We have the sad, silent witnesses to the

same truth in the millions of "tiny mounds where the hopes of earth are laid 'neath the tear wet mold" in the cemeteries that should hold only the aged ones who have toiled out their threescore years and ten in the service of their Master. O! it is sad to think of the wrecked lives and broken hearts that owe all this wrecking and breaking to the folly of parental ignorance and prejudice. Well may we say, pointing to that learned and eminent profession whose false teaching has brought this ruin of body and soul on humanity, as Francesca said to Alp,

"Dark will thy doom be, darker still
Thine immortality of ill."



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